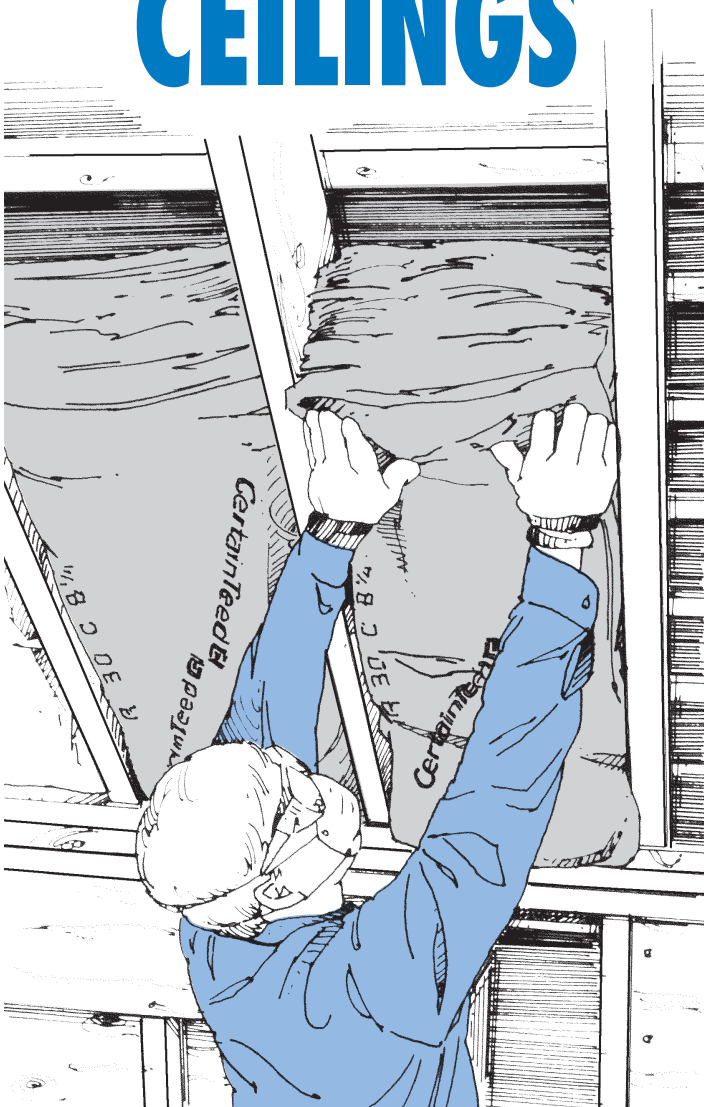
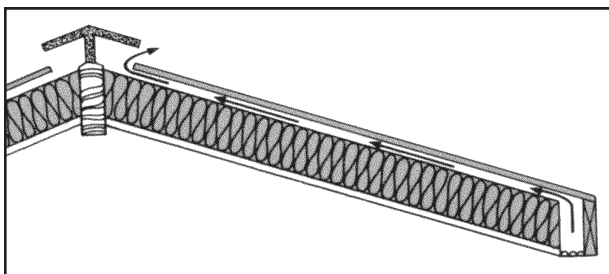


HOW TO INSULATE CATHEDRAL CEILINGS



One of the most dramatic elements in new home construction today is the cathedral ceiling. And it's easy to see why. Cathedral ceilings offer an aesthetically pleasing appearance both inside and outside a home while giving the feeling of added luxury, space, height, comfort and, oftentimes, light through the installation of skylights.

Cathedral ceilings, however, pose some interesting design challenges, particularly in the area of insulation. While the actual insulating process is relatively standard, there has been some debate as to whether cathedral ceilings require ventilation to avoid condensation and, if so, how much is enough. Some building codes state that a minimum of 1" of space exist between the roof deck and the insulation and that eave and ridge vents be provided as well.



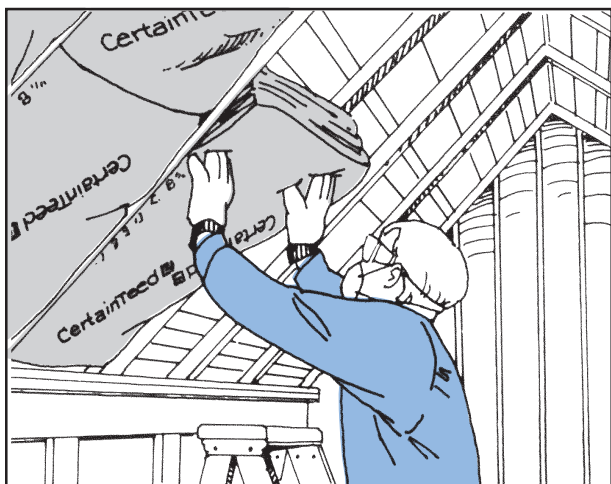
The following is a guideline for insulating cathedral ceilings including the design challenges they pose, materials to make the job easier, a step-by-step how-to insulate guide, and some frequently encountered problems and solutions for each to help ensure both a comfortable, energy efficient construction and a beautiful interior and exterior design.

INSULATING CATHEDRAL CEILINGS

As a guide, cathedral ceilings are insulated in the same way as flat ceilings.

To start, if using kraft-faced fiber glass insulation, the vapor retarder should be installed toward the warm-in-winter side of the house, or facing down towards the interior of the room. Start at the eave area and work toward the ridge. Make sure the batts are snugly butted together.

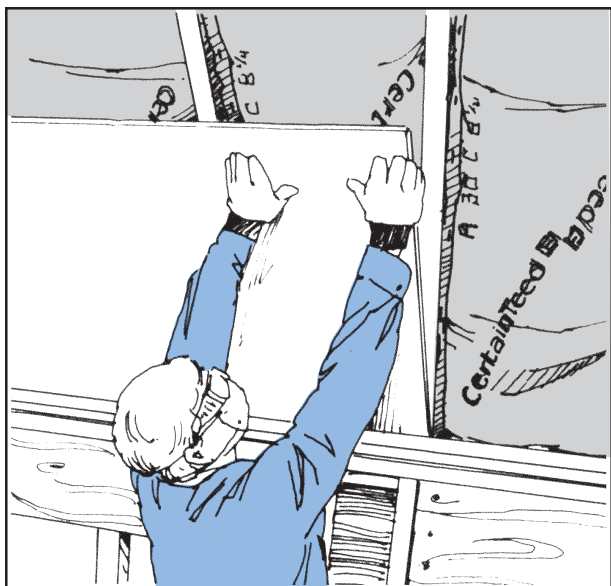
If unfaced fiber glass insulation is used, a separate poly vapor retarder should be applied after the insulation is installed. Make sure the poly is continuous.



1 Fit the end of the batt snugly against the top plate of framing at the beginning of the cathedral ceiling framing.



2 Working down the flange, staple about eight inches apart until you reach the end of the batt and do the same thing until the batts reach the top of the ceiling. Fit batts tightly against each other.



3 Cover the batts with an approved material such as gypsum board. Do not leave exposed for an extended period of time.

AVOIDING PROBLEMS

Skylights in cathedral ceilings can create unventilated areas unless both high and low ventilation openings are provided. Also, make sure skylights are properly sealed to keep moisture out.

The same precaution applies to recessed lighting. They should be sealed thoroughly on the inside and outside to be air and vapor tight.

For more information on cathedral ceilings, write to the CertainTeed Home Institute, P.O. Box 860, Valley Forge, PA 19482, call 1-800-782-8777, or visit us on the internet at www.certainteed.com.

SELECTING THE RIGHT MATERIAL FOR THE JOB

With energy efficiency a concern among homebuyers and homeowners alike, codes continue to promote higher recommended R-Values for cathedral ceilings. Insulation manufacturers like CertainTeed have responded with high-performance fiber glass batts that are designed specifically for cathedral ceilings to provide higher R-Values per inch than standard fiber glass batts.

For instance, cathedral ceilings were constructed with 2 x 8 rafters for many years which meant that only R-19 batts could be installed. When codes upgraded to R-30, even 2 x 10 rafters would not offer enough space for standard 10" thick R-30 batts. Now insulation manufacturers are offering 8¼" R-30 high-density batts which offer higher thermal performance inch-for-inch than standard fiber glass batts with the added benefit of allowing space for ventilation and eliminating the need to increase the rafter size or add roof baffles.

For those who want even higher R-Value, CertainTeed offers a 10¼" thick R-38 product that can be used in 2 x 12 construction.

Before beginning a cathedral ceiling insulation job, investigate today's high-density products.

VENTILATION

The need to leave space between the roof deck and the insulation has been debated for years. This depends in part on where you live, however, it is the recommendation of the CertainTeed Home Institute that, when practical, some space be left for ventilation.

The amount of space has also been the subject of some debate. As stated earlier, some codes require a minimum of 1", however, there is no basis technically for this number. The CertainTeed Home Institute recommends that some space, say ½", will suffice.

Finally, the best form of ventilation is a system utilizing a combination of eave (or soffit) vents and continuous ridge ventilation. This allows for the movement of air under the roof deck which can minimize moisture problems and prolong the life of the roofing.

**CertainTeed
Home
Institute**

P.O. Box 860, Valley Forge, PA 19482
800-782-8777
www.certainteed.com